

**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start		Rating **	A	Issue No.	4
LM End		Issue Type +	Ma	Location *	N/A
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Operations & Maintenance Manuals			°	°
DWR ID	DWR_RD2089_01_s_2013_4				
Comment Code					
Inspector Comment					
The O&M Manual is available at the LMA's office.					

No Photos

LM Start		Rating **	A	Issue No.	15
LM End		Issue Type +	Ma	Location *	N/A
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Emergency Supplies & Equipment			°	°
DWR ID	DWR_RD2089_01_s_2013_15				
Comment Code					
Inspector Comment					
The LMA has flood fighting supplies on-site.					

No Photos

LM Start		Rating **	M	Issue No.	34
LM End		Issue Type +	Ma	Location *	N/A
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Flood Preparedness & Training			°	°
DWR ID	DWR_RD2089_01_s_2013_34				
Comment Code					
Inspector Comment					
The LMA has not attended a flood fight training class in the past few years. They do have an emergency plan.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Reclamation District No. 2089 Stark

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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.41	Rating **	U	Issue No.	28
LM End	0.46	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.809593°	37.809507°
				-121.391963°	-121.392907°
DWR ID	DWR_RD2089_01_s_2012_28				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					
Vegetation is too thick to allow access and visibility. Some thick patches of shrubs remain and continue to block visibility and access.					

Photo 1 of 2 : FA_2018_RD2089_316_28_20180906_00025.jpg



05/24/2011 Photo shows thick dead vegetation and continuation of trees in area that are preventing access and visibility of landside slope and toe.

LM Start	0.41	Rating **	U	Issue No.	28 (cont)
LM End	0.46	Issue Type +	Ma	Location *	LS

Photo 2 of 2 : FA_2018_RD2089_316_28_20181101_00058.jpg



Looking at dense veg on landward slope. (Fall 2018)

LM Start	0.54	Rating **	M	Issue No.	14
LM End	0.54	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			37.810087°	37.810087°
				-121.394200°	-121.394200°
DWR ID	DWR_RD2089_01_s_2012_14				
Comment Code					
C3 : Add appropriate gravel or road base. Grade and compact.					
Inspector Comment					
11/10/2011 Minor depressions will cause ponding.					

Photo 1 of 1 : FA_2018_RD2089_316_14_20180906_00013.jpg



11/10/2011 Depressions in crown.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.67	Rating **	A/W	Issue No.	5
LM End	0.67	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR Erosion Survey			37.809780 °	37.809780 °
				-121.396230 °	-121.396230 °
DWR ID	RD2089U01RM29.61				

Comment Code

Inspector Comment

09/13/2017: No significant change observed.
 07/25/2016: No significant change observed.
 06/25/2015: No significant change observed.
 07/02/2014: No significant change observed.
 08/13/2013: No significant change observed.
 08/07/2012: The site has been visited by boat survey. No significant change observed.
 08/23/2011: The 5-foot vertical scarp shows no significant change from the last year inspection. No new erosion activities observed. Dense white willow trees on site.
 09/07/2010: It was difficult to view the erosion due to the thick Willow thickets and other vegetation at the water line. At the time of the inspection, there were no signs of repair on site. As noted during the last survey, there is a 5-foot vertical scarp along the lower slope that may be subjected to high flow velocities.
 08/05/2010: Recommended for repair, per CLRO; "Erosion of this site may be subjective to rapid rates of erosion."
 09/28/2009: No major change observed; 5-foot vertical scarp is immediately downstream of where berm has tapered; site is recommended as local maintenance issue, per CLRO CES Evaluation 2008 Report; Site # is the same as RM29.6, LM0.60; previously rated "U".
 11/05/2008: No change observed; rodent holes on lower slope; wide levee crown. [2017 Site ID:RD2089U01RM29.61]

LM Start	0.67	Rating **	A/W	Issue No.	5 (cont)
LM End	0.67	Issue Type +	Ma	Location *	WS

Photo 1 of 2 : FA_2018_RD2089_316_5_20180906_00007.jpg



Front view of the site. The scarp erosion is at the levee slope but is not visible due to the dense vegetation at the site.

Photo 2 of 2 : FA_2018_RD2089_316_5_20180906_00008.jpg



Front view of the site. Note the very dense white willow thickets on site.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.67	Rating **	A/W	Issue No.	20
LM End	0.68	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.809700 °	37.809700 °
				-121.396300 °	-121.396400 °
DWR ID	DWR_RD2089_01_f _ 2017_20				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:512					
Site Designation:LMA-418					
Repair Type: Erosion					
Rating:Serious					
Field Date:8/14/2017					
Notes: deep erosion more than half way up slope.					

Photo 1 of 3 : LEVAL_FA_2018_512_4457.jpg



LM Start	0.67	Rating **	A/W	Issue No.	20 (cont)
LM End	0.68	Issue Type +	Ma	Location *	

Photo 2 of 3 : LEVAL_FA_2018_512_4458.jpg

*** Location**

LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

**** Rating**

A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type

Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

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Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.67	Rating **	A/W	Issue No.	20 (cont)
LM End	0.68	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.809700 °	37.809700 °
				-121.396300 °	-121.396400 °
DWR ID	DWR_RD2089_01_f _ 2017_20				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:512					
Site Designation:LMA-418					
Repair Type: Erosion					
Rating:Serious					
Field Date:8/14/2017					
Notes: deep erosion more than half way up slope.					

Photo 3 of 3 : LEVAL_FA_2018_512_4464.jpg



LM Start	0.80	Rating **	M	Issue No.	22
LM End	0.80	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			37.808466 °	37.808466 °
				-121.397847 °	-121.397847 °
DWR ID	DWR_RD2089_01_f_2016_22				
Comment Code					
S2 : Repair the levee slope damaged by foot traffic and prevent access where possible.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_316_22_20180906_00022.jpg



View of the footpath on the landside levee slope.

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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.16	Rating **	A/W	Issue No.	30
LM End	1.18	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.805600 °	37.805600 °
				-121.401700 °	-121.401900 °
DWR ID	DWR_RD2089_01_f_2017_30				

Comment Code

Inspector Comment

Levee Evaluation Comments

Description: Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.

Site ID No: 511

Site Designation: LMA-417

Repair Type: Erosion

Rating: Critical

Field Date: 8/16/2017

Notes: Narrow levee with over steep slope

LM Start	1.16	Rating **	A/W	Issue No.	30 (cont)
LM End	1.18	Issue Type +	Ma	Location *	WS

Photo 1 of 3 : LEVAL_FA_2018_511_4301.jpg



Photo 2 of 3 : LEVAL_FA_2018_511_4303.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.16	Rating **	A/W	Issue No.	30 (cont)
LM End	1.18	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.805600 °	37.805600 °
				-121.401700 °	-121.401900 °
DWR ID	DWR_RD2089_01_f _ 2017_30				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:511					
Site Designation:LMA-417					
Repair Type: Erosion					
Rating:Critical					
Field Date:8/16/2017					
Notes: Narrow levee with over steep slope					

Photo 3 of 3 : LEVAL_FA_2018_511_4305.jpg



LM Start	1.17	Rating **	A/W	Issue No.	3
LM End	1.17	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR Erosion Survey			37.805523 °	37.805523 °
				-121.401718 °	-121.401718 °
DWR ID	RD2089U01RM29.1				
Comment Code					
Inspector Comment					
09/13/2017: The erosion is at the upstream of a small tree, inside of a slight river bend. [2017 Site ID:RD2089U01RM29.1]					

Photo 1 of 3 : FA_2018_RD2089_316_3_20180906_00004.jpg



Front view of the erosion. Note the trees next to the erosion site.

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Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.17	Rating **	A/W	Issue No.	3 (cont)	
LM End	1.17	Issue Type +	Ma	Location *	WS	
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	DWR Erosion Survey			37.805523 °	37.805523 °	
				-121.401718 °	-121.401718 °	
DWR ID	RD2089U01RM29.1					
Comment Code						
Inspector Comment						
09/13/2017: The erosion is at the upstream of a small tree, inside of a slight river bend. [2017 Site ID:RD2089U01RM29.1]						

Photo 2 of 3 : FA_2018_RD2089_316_3_20180906_00005.jpg



Front view of the erosion.

LM Start	1.17	Rating **	A/W	Issue No.	3 (cont)
LM End	1.17	Issue Type +	Ma	Location *	WS

Photo 3 of 3 : FA_2018_RD2089_316_3_20180906_00006.jpg



Front view of the erosion.

LM Start	1.19	Rating **	A/W	Issue No.	25
LM End	1.19	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.805663 °	37.805663 °
				-121.402151 °	-121.402151 °
DWR ID	DWR_RD2089_01_s_2016_25				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					
Arrundo was trimmed back but may creep up the waterside levee slope if not maintained.					

Photo 1 of 1 : FA_2018_RD2089_316_25_20180906_00023.jpg



View of the Arrundo on the waterside slope obstructing visibility. LMA is actively trying to remove the wild growth.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.22	Rating **	M	Issue No.	43
LM End	1.22	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			37.805735 °	37.805735 °
				-121.402614 °	-121.402614 °
DWR ID	DWR_RD2089_01_s_2012_43				
Comment Code					
C3 : Add appropriate gravel or road base. Grade and compact.					
Inspector Comment					
11/10/2011 Depression needs to be filled.					

Photo 1 of 1 : FA_2018_RD2089_316_43_20180906_00032.jpg



11/10/2011 Depression in roadway.

LM Start	1.23	Rating **	M	Issue No.	2
LM End	1.24	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR Erosion Survey			37.805580 °	37.805580 °
				-121.403010 °	-121.403010 °
DWR ID	RD2089U01RM29.04				
Comment Code					
Inspector Comment					
09/13/2017: No significant change observed. More vegetation observed at the site.					
09/16/2016: The river was not navigable near the site due to the dense water grass, so the site was visited by land survey. No significant change observed.					
06/25/2015: No significant change observed.					
07/02/2014: No significant change observed.					
08/13/2013: The erosion is around a tree at the levee toe. Dense vegetation is visible. [2017 Site ID:RD2089U01RM29.04]					

Photo 1 of 2 : FA_2018_RD2089_316_2_20180906_00002.jpg



Front view of the erosion.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.23	Rating **	M	Issue No.	2 (cont)	
LM End	1.24	Issue Type +	Ma	Location *	WS	
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	DWR Erosion Survey			37.805580 °		37.805580 °
				-121.403010 °		-121.403010 °
DWR ID	RD2089U01RM29.04					
Comment Code						
Inspector Comment						
09/13/2017: No significant change observed. More vegetation observed at the site.						
09/16/2016: The river was not navigable near the site due to the dense water grass, so the site was visited by land survey. No significant change observed.						
06/25/2015: No significant change observed.						
07/02/2014: No significant change observed.						
08/13/2013: The erosion is around a tree at the levee toe. Dense vegetation is visible. [2017 Site ID:RD2089U01RM29.04]						

Photo 2 of 2 : FA_2018_RD2089_316_2_20180906_00003.jpg



Close view of the erosion.

LM Start	1.23	Rating **	M	Issue No.	44
LM End	1.23	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			37.805801 °	37.805801 °
				-121.402913 °	-121.402913 °
DWR ID	DWR_RD2089_01_s_2012_44				
Comment Code					
C3 : Add appropriate gravel or road base. Grade and compact.					
Inspector Comment					
11/10/2011 Depression in roadway needs to be filled.					

Photo 1 of 1 : FA_2018_RD2089_316_44_20180906_00033.jpg



11/10/2011 Roadway depression.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.34	Rating **	M	Issue No.	45
LM End	1.34	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			37.806128 °	37.806128 °
				-121.404890 °	-121.404890 °
DWR ID	DWR_RD2089_01_s_2012_45				
Comment Code					
C3 : Add appropriate gravel or road base. Grade and compact.					
Inspector Comment					
11/10/2011 Depression needs to be filled.					

Photo 1 of 1 : FA_2018_RD2089_316_45_20180906_00034.jpg



11/10/2011 Roadway depression.

LM Start	1.40	Rating **	M	Issue No.	47
LM End	1.40	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.806268 °	37.806268 °
				-121.405874 °	-121.405874 °
DWR ID	DWR_RD2089_01_s_2012_47				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					
11/10/2011 No rodents visible, but active burrows are present.					

Photo 1 of 1 : FA_2018_RD2089_316_47_20180906_00035.jpg



11/10/2011 Active rodent burrow on landside slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.41	Rating **	M	Issue No.	944	
LM End	1.41	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP LMA Responsibility			37.806323°	37.806323°	
				-121.406155°	-121.406155°	
DWR ID	23045					
Comment Code						
Inspector Comment						
FS_ID:21585 DS_ID:23045 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - siphon breaker needs repair. FIELD_STRUCT_DESC: 10-inch steel drainage discharge pipe through the levee, 2.4 feet below the crown. Pump in a drainage ditch on the landside (LS). Siphon breaker on the waterside (WS) shoulder. [Additional Reference(s): DWR Levee Log, 1991]. FS Date: 9/12/2013						

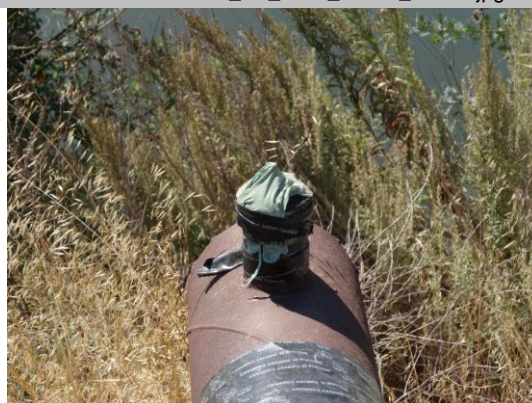
LM Start	1.41	Rating **	M	Issue No.	944 (cont)
LM End	1.41	Issue Type +	Ma	Location *	

Photo 1 of 3 : UCIP_FA_2018_21585_36624.jpg



WS view: exposed steel pipe on levee slope. A pvc pipe on left.

Photo 2 of 3 : UCIP_FA_2018_21585_36623.jpg



WS view: exposed steel pipe with siphon breaker. Looks siphon breaker needs repair.

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Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.41	Rating **	M	Issue No.	944 (cont)	
LM End	1.41	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP LMA Responsibility			37.806323 °	37.806323 °	
				-121.406155 °	-121.406155 °	
DWR ID	23045					
Comment Code						
Inspector Comment						
FS_ID:21585 DS_ID:23045 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - siphon breaker needs repair. FIELD_STRUCT_DESC: 10-inch steel drainage discharge pipe through the levee, 2.4 feet below the crown. Pump in a drainage ditch on the landside (LS). Siphon breaker on the waterside (WS) shoulder. [Additional Reference(s): DWR Levee Log, 1991]. FS Date: 9/12/2013						

Photo 3 of 3 : UCIP_FA_2018_21585_36622.jpg



LS view: exposed steel pipe on levee slope.

LM Start	1.44	Rating **	M	Issue No.	49
LM End	1.44	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.806383 °	37.806383 °
				-121.406599 °	-121.406599 °
DWR ID	DWR_RD2089_01_s_2012_49				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					
Deep burrow on waterside needs to be filled.					

Photo 1 of 1 : FA_2018_RD2089_316_49_20180906_00036.jpg



11/10/2011 Deep burrow on waterside.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.01	Rating **	U	Issue No.	20
LM End	0.11	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.806762 °	37.807958 °
				-121.408077 °	-121.409065 °
DWR ID	DWR_RD2089_02_s_2016_20				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					

Photo 1 of 2 : FA_2018_RD2089_317_20_20180906_00021.jpg



View of the vegetation on the landside levee slope.

LM Start	0.01	Rating **	U	Issue No.	20 (cont)
LM End	0.11	Issue Type +	Ma	Location *	LS

Photo 2 of 2 : FA_2018_RD2089_317_20_20181101_00064.jpg



View of dense veg on landward slope. (Fall 2018)

LM Start	0.06	Rating **	U	Issue No.	58
LM End	0.06	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.807306 °	37.807306 °
				-121.408692 °	-121.408692 °
DWR ID	DWR_RD2089_02_s_2017_58				
Comment Code					
V4 : Elderberries are blocking visibility and flood fight capability.					
Inspector Comment					
Trim back the shrub to allow access and visibility.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.07	Rating **	U	Issue No.	4
LM End	0.07	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.807375 °	37.807375 °
				-121.408605 °	-121.408605 °
DWR ID	DWR_RD2089_02_s_2012_4				
Comment Code					
V4 : Elderberries are blocking visibility and flood fight capability.					
Inspector Comment					
Thick brush may include some elderberries.					

No Photos

LM Start	0.16	Rating **	U	Issue No.	48
LM End	0.16	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.808583 °	37.808583 °
				-121.409432 °	-121.409432 °
DWR ID	DWR_RD2089_02_f_2013_48				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_317_48_20180906_00044.jpg



View of the rodent burrow on the landside levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.20	Rating **	M	Issue No.	46
LM End	0.21	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.809100 °	37.809200 °
				-121.409800 °	-121.409900 °
DWR ID	DWR_RD2089_02_f_2017_46				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:509					
Site Designation:LMA-415					
Repair Type: Erosion					
Rating:Area of Concern					
Field Date:8/16/2017					
Notes: Displaced riprap at toe.					

Photo 1 of 3 : LEVAL_FA_2018_509_4314.jpg



LM Start	0.20	Rating **	M	Issue No.	46 (cont)
LM End	0.21	Issue Type +	Ma	Location *	

Photo 2 of 3 : LEVAL_FA_2018_509_4315.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

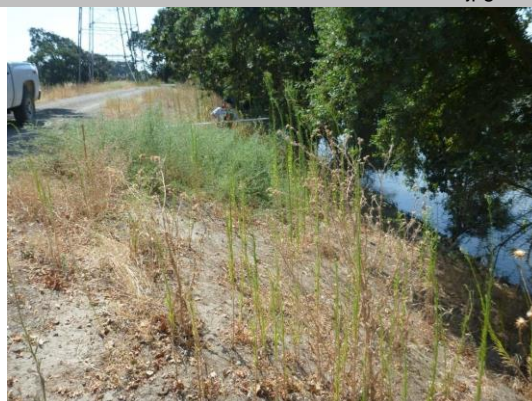
Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.20	Rating **	M	Issue No.	46 (cont)	
LM End	0.21	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	2017 Storm Damage			37.809100 °	37.809200 °	
				-121.409800 °	-121.409900 °	
DWR ID	DWR_RD2089_02_f_2017_46					
Comment Code						
Inspector Comment						
Levee Evaluation Comments						
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.						
Site ID No:509						
Site Designation:LMA-415						
Repair Type: Erosion						
Rating:Area of Concern						
Field Date:8/16/2017						
Notes: Displaced riprap at toe.						

Photo 3 of 3 : LEVAL_FA_2018_509_4317.jpg



LM Start	0.21	Rating **	M	Issue No.	49
LM End	0.21	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.809148°	37.809148°
				-121.409897°	-121.409897°
DWR ID	DWR_RD2089_02_s_2018_49				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_317_49_20180906_00045.jpg



View of the multiple rodent burrows on the landside levee hinge and slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Reclamation District No. 2089 Stark

**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.30	Rating **	U	Issue No.	53 (cont)	
LM End	0.31	Issue Type +	Ma	Location *	LS	
Category	Earthen Levee			GPS Latitude/Longitude		
				Start		End
Item	Animal Control			37.809977 °		37.810022 °
				-121.411189 °		-121.411387 °
DWR ID	DWR_RD2089_02_f_2013_53					
Comment Code						
A1 : Exterminate rodents and backfill and compact or grout burrows.						
Inspector Comment						
Exterminating rodents and grouting the burrows recommended.						

Photo 2 of 3 : FA_2018_RD2089_317_53_20180906_00052.jpg



View of the rodent burrow on the landside levee slope.

LM Start	0.30	Rating **	U	Issue No.	53 (cont)
LM End	0.31	Issue Type +	Ma	Location *	LS

Photo 3 of 3 : FA_2018_RD2089_317_53_20180906_00053.jpg



Another view of the multiple rodent burrows on the landside levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.32	Rating **	A/W	Issue No.	47
LM End	0.57	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.810020°	37.811810°
				-121.411550°	-121.415390°
DWR ID	DWR_RD2089_02_f_2017_47				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:					
Site ID No:109					
Site Designation:335-103					
Repair Type: Erosion					
Rating:Area of Concern					
Field Date:6/7/2017					
Notes: vegetation too dense for evaluation					

LM Start	0.32	Rating **	A/W	Issue No.	47 (cont)
LM End	0.57	Issue Type +	Ma	Location *	

Photo 1 of 3 : LEVAL_FA_2018_109_1297.jpg



Photo 2 of 3 : LEVAL_FA_2018_109_1298.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.36	Rating **	M	Issue No.	26
LM End	0.36	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.810125°	37.810125°
				-121.412317°	-121.412317°
DWR ID	DWR_RD2089_02_s_2012_26				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					
Active burrow needs to be repaired.					

Photo 1 of 1 : FA_2018_RD2089_317_26_20180906_00024.jpg



05/24/2011 Active rodent burrow.

LM Start	0.39	Rating **	U	Issue No.	7
LM End	0.39	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			37.810140 °	37.810140 °
				-121.412906 °	-121.412906 °
DWR ID	DWR_RD2089_02_f_2018_7				
Comment Code					
C2 : Repair depressions or ruts in the crown or slope.					
Inspector Comment					
Large depression on levee crown.					

Photo 1 of 1 : FA_2018_RD2089_317_7_20181101_00065.jpg



View of depression greater than six inches on levee crown. (Fall 2018)

*** Location**

LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

**** Rating**

A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type

Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.39	Rating **	A/W	Issue No.	50
LM End	0.41	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.810150 °	37.810270 °
				-121.412930 °	-121.413240 °
DWR ID	DWR_RD2089_02_f _ 2017_50				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:508					
Site Designation:LMA-414					
Repair Type: Erosion					
Rating:Serious					
Field Date:8/16/2017					
Notes: Large erosion around tree with a 12' vertical cut.					

Photo 1 of 3 : LEVAL_FA_2018_508_4321.jpg



LM Start	0.39	Rating **	A/W	Issue No.	50 (cont)
LM End	0.41	Issue Type +	Ma	Location *	

Photo 2 of 3 : LEVAL_FA_2018_508_4323.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.39	Rating **	A/W	Issue No.	50 (cont)
LM End	0.41	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.810150 °	37.810270 °
				-121.412930 °	-121.413240 °
DWR ID	DWR_RD2089_02_f_2017_50				
Comment Code					
Inspector Comment					
<p>Levee Evaluation Comments</p> <p>Description: Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.</p> <p>Site ID No: 508</p> <p>Site Designation: LMA-414</p> <p>Repair Type: Erosion</p> <p>Rating: Serious</p> <p>Field Date: 8/16/2017</p> <p>Notes: Large erosion around tree with a 12' vertical cut.</p>					

Photo 3 of 3 : LEVAL_FA_2018_508_4325.jpg

*** Location**

LS : Land Side N/A : Not Applicable
 WS : Water Side
 CR : Crown

**** Rating**

A : Acceptable N : Not Inspected/Rated
 M : Minimally Acceptable C : Corrected
 U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type

Ma : Maintenance Deficiency
 Ob : Design & System Obsolescence
 En : Enforcement

**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.40	Rating **	A/W	Issue No.	1
LM End	0.41	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR Erosion Survey			37.809960 °	37.809960 °
				-121.413200 °	-121.413200 °
DWR ID	RD2089U02RM28.35				
Comment Code					
Inspector Comment					
09/13/2017: No significant change observed.					
09/26/2016: The erosion site was visited by land survey instead of water surface survey due to the dense water grass in the river this year. No significant change observed.					
06/25/2015: No significant change observed.					
07/02/2014: No significant change observed.					
08/13/2013: No significant change observed.					
08/07/2012: The site has been visited by boat survey. No significant change observed.					
08/23/2011: No significant change observed on site.					
09/07/2010: Site consists of a jutting rip rap that has created an eddy, scouring the levee slope. Most sections of the toe and lower slope are lined with rip rap. However, the rip rap is sloughing on the mid slope and at the toe, exposing the underlying soils and tree roots. The remaining revetment is no longer adequately protecting the slope.					
There are 3 Sycamore trees at the toe with exposed tree roots.					
08/05/2010: Recommended for repair, per CLRO.					
09/28/2009: Pocket erosion on lower slope just above the toe rip rap; protruding rip rap upstream is creating an eddy, scouring the levee slope; Site # is the same as RM28.40,LM0.30; previously rated "U"; pictures will be made available during the next survey.					
11/05/2008: Cut into levee profile; riprap slide; rodent holes; pictures do not match GPS and current condition. [2017 Site ID:RD2089U02RM28.35]					

LM Start	0.40	Rating **	A/W	Issue No.	1 (cont)
LM End	0.41	Issue Type +	Ma	Location *	WS

Photo 1 of 3 : FA_2018_RD2089_317_1_20180906_00001.jpg



Front view of the site.

Photo 2 of 3 : FA_2018_RD2089_317_1_20180906_00002.jpg



Close view of the erosion.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.40	Rating **	A/W	Issue No.	1 (cont)	
LM End	0.41	Issue Type +	Ma	Location *	WS	
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR Erosion Survey			37.809960 °	37.809960 °	
				-121.413200 °	-121.413200 °	
DWR ID	RD2089U02RM28.35					
Comment Code						
Inspector Comment						
09/13/2017: No significant change observed.						
09/26/2016: The erosion site was visited by land survey instead of water surface survey due to the dense water grass in the river this year. No significant change observed.						
06/25/2015: No significant change observed.						
07/02/2014: No significant change observed.						
08/13/2013: No significant change observed.						
08/07/2012: The site has been visited by boat survey. No significant change observed.						
08/23/2011: No significant change observed on site.						
09/07/2010: Site consists of a jutting rip rap that has created an eddy, scouring the levee slope. Most sections of the toe and lower slope are lined with rip rap. However, the rip rap is sloughing on the mid slope and at the toe, exposing the underlying soils and tree roots. The remaining revetment is no longer adequately protecting the slope. There are 3 Sycamore trees at the toe with exposed tree roots.						
08/05/2010: Recommended for repair, per CLRO.						
09/28/2009: Pocket erosion on lower slope just above the toe rip rap; protruding rip rap upstream is creating an eddy, scouring the levee slope; Site # is the same as RM28.40,LM0.30; previously rated "U"; pictures will be made available during the next survey.						
11/05/2008: Cut into levee profile; riprap slide; rodent holes; pictures do not match GPS and current condition. [2017 Site ID:RD2089U02RM28.35]						

Photo 3 of 3 : FA_2018_RD2089_317_1_20180906_00003.jpg



Close view of the erosion.

LM Start	0.43	Rating **	M	Issue No.	63
LM End	1.31	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.810453 °	37.819111 °
				-121.413532 °	-121.419801 °
DWR ID	DWR_RD2089_02_s_2018_63				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Reclamation District No. 2089 Stark

View of wild growth on the partially visible landside slope. Spring 2018.

11/10/2011 Two large burrows on crown, need to be filled.

11/10/2011 Depression in crown needs to be filled.

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Reclamation District No. 2089 Stark

**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.54	Rating **	M	Issue No.	35 (cont)	
LM End	0.54	Issue Type +	Ma	Location *	CR	
Category	Earthen Levee			GPS Latitude/Longitude		
				Start		End
Item	Crown Surface / Depressions / Rutting			37.811382 °		37.811382 °
				-121.415054 °		-121.415054 °
DWR ID	DWR_RD2089_02_f_2015_35					
Comment Code						
C2 : Repair depressions or ruts in the crown or slope.						
Inspector Comment						

Photo 2 of 4 : FA_2018_RD2089_317_35_20180906_00029.jpg



View of the levee crown depression looking downstream.

LM Start	0.54	Rating **	M	Issue No.	35 (cont)
LM End	0.54	Issue Type +	Ma	Location *	CR

Photo 3 of 4 : FA_2018_RD2089_317_35_20180906_00030.jpg



View of the levee crown depression looking to the landside.

LM Start	0.54	Rating **	M	Issue No.	35 (cont)
LM End	0.54	Issue Type +	Ma	Location *	CR

Photo 4 of 4 : FA_2018_RD2089_317_35_20180906_00031.jpg



View of the levee crown depression looking to the waterside.

*** Location**

LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

**** Rating**

A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type

Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.60	Rating **	A/W	Issue No.	56
LM End	0.61	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.812000 °	37.812100 °
				-121.415700 °	-121.415900 °
DWR ID	DWR_RD2089_02_s_2018_56				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:507					
Site Designation:LMA-413					
Repair Type: Erosion					
Rating:Serious					
Field Date:8/16/2017					
Notes: Vertical cut on outside bend of river					

Photo 1 of 3 : LEVAL_FA_2018_507_4335.jpg



LM Start	0.60	Rating **	A/W	Issue No.	56 (cont)
LM End	0.61	Issue Type +	Ma	Location *	

Photo 2 of 3 : LEVAL_FA_2018_507_4336.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.60	Rating **	A/W	Issue No.	56 (cont)	
LM End	0.61	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	2017 Storm Damage			37.812000 °		37.812100 °
				-121.415700 °		-121.415900 °
DWR ID	DWR_RD2089_02_s_2018_56					
Comment Code						
Inspector Comment						
Levee Evaluation Comments						
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.						
Site ID No:507						
Site Designation:LMA-413						
Repair Type: Erosion						
Rating:Serious						
Field Date:8/16/2017						
Notes: Vertical cut on outside bend of river						

Photo 3 of 3 : LEVAL_FA_2018_507_4340.jpg



LM Start	0.76	Rating **	M	Issue No.	15
LM End	0.76	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Erosion / Bank Caving			37.813934 °	37.813934 °
				-121.414320 °	-121.414320 °
DWR ID	DWR_RD2089_02_f_2014_15				
Comment Code					
E2 : Schedule repair of erosion site prior to the next inspection.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_317_15_20180906_00016.jpg



View of the scour from surface runoff on the landside levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.83	Rating **	M	Issue No.	21
LM End	0.83	Issue Type +	Ma	Location *	WS
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Animal Control		37.814773 °	37.814773 °	
			-121.414555 °	-121.414555 °	
DWR ID	DWR_RD2089_02_s _ 2012_21				
Comment Code					
A2 : Repair the levee slope damaged by livestock and prevent large animal access.					
Inspector Comment					
Livestock have worn paths into levee slope.					

No Photos

LM Start	0.83	Rating **	M	Issue No.	38
LM End	0.83	Issue Type +	Ma	Location *	WS
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Animal Control		37.814844 °	37.814844 °	
			-121.414566 °	-121.414566 °	
DWR ID	DWR_RD2089_02_s _ 2012_38				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					
Active burrows present.					

No Photos

LM Start	0.84	Rating **	M	Issue No.	25
LM End	0.84	Issue Type +	Ma	Location *	LS
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Vegetation		37.814906 °	37.814906 °	
			-121.414745 °	-121.414745 °	
DWR ID	DWR_RD2089_02_s _ 2012_25				
Comment Code					
V4 : Elderberries are blocking visibility and flood fight capability.					
Inspector Comment					
Elderberry and blackberry on levee slope.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.84	Rating **	M	Issue No.	42
LM End	0.84	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			37.814931 °	37.814931 °
				-121.414756 °	-121.414756 °
DWR ID	DWR_RD2089_02_f_2016_42				
Comment Code					
S3 : Repair the levee slope damaged by vehicle traffic and prevent access where possible.					
Inspector Comment					
Ramp is encroaching into the levee slope. Add appropriate material to stabilize the slope.					

Photo 1 of 1 : FA_2018_RD2089_317_42_20180906_00037.jpg



View of the ramp on the landside levee slope.

LM Start	0.85	Rating **	U	Issue No.	40
LM End	0.90	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.814997 °	37.814970 °
				-121.414774 °	-121.415767 °
DWR ID	DWR_RD2089_02_s_2012_40				
Comment Code					
A1 : Exterminate rodents and backfill and compact or grout burrows.					
Inspector Comment					
Numerous burrows on landside slope adjacent to hay storage area. Deep burrows in crown and landside ramp.					

Photo 1 of 3 : FA_2018_RD2089_317_40_20180906_00033.jpg



05/24/2011 Deep vertical burrow in ramp on land side of levee.

LM Start	0.85	Rating **	U	Issue No.	40 (cont)
LM End	0.90	Issue Type +	Ma	Location *	LS

Photo 2 of 3 : FA_2018_RD2089_317_40_20180906_00034.jpg



05/24/2011 Deep vertical burrow in levee crown.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.85	Rating **	U	Issue No.	40 (cont)	
LM End	0.90	Issue Type +	Ma	Location *	LS	
Category	Earthen Levee			GPS Latitude/Longitude		
				Start		End
Item	Animal Control			37.814997 °		37.814970 °
				-121.414774 °		-121.415767 °
DWR ID	DWR_RD2089_02_s_2012_40					
Comment Code						
A1 : Exterminate rodents and backfill and compact or grout burrows.						
Inspector Comment						
Numerous burrows on landside slope adjacent to hay storage area. Deep burrows in crown and landside ramp.						

Photo 3 of 3 : FA_2018_RD2089_317_40_20180906_00035.jpg



View of the multiple rodent holes on the landside levee slope.

LM Start	0.91	Rating **	M	Issue No.	22
LM End	0.91	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.814903 °	37.814903 °
				-121.415887 °	-121.415887 °
DWR ID	DWR_RD2089_02_s_2015_22				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					

No Photos

LM Start	0.94	Rating **	M	Issue No.	41
LM End	0.94	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			37.814940 °	37.814940 °
				-121.416499 °	-121.416499 °
DWR ID	DWR_RD2089_02_s_2012_41				
Comment Code					
PI : Pipe					
Inspector Comment					
Debris/CMP on levee slope needs to be removed.					

Photo 1 of 1 : FA_2018_RD2089_317_41_20180906_00036.jpg



05/24/2011 Old CMP left on waterside levee slope, needs to be removed.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.95	Rating **	U	Issue No.	5
LM End	0.95	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.814915 °	37.814915 °
				-121.416606 °	-121.416606 °
DWR ID	DWR_RD2089_02_s_2014_5				
Comment Code					
A1 : Exterminate rodents and backfill and compact or grout burrows.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_317_5_20180906_00005.jpg



View of the rodent holes on the landside levee slope.

LM Start	1.00	Rating **	U	Issue No.	12
LM End	1.00	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.815182°	37.815182°
				-121.417439°	-121.417439°
DWR ID	DWR_RD2089_02_f_2014_12				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					

Photo 1 of 2 : FA_2018_RD2089_317_12_20180906_00012.jpg



View of several large rodent holes on the levee crown.

LM Start	1.00	Rating **	U	Issue No.	12 (cont)
LM End	1.00	Issue Type +	Ma	Location *	CR

Photo 2 of 2 : FA_2018_RD2089_317_12_20180906_00013.jpg



View of several rodent burrows on landside levee hinge and crown.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.05	Rating **	N	Issue No.	29
LM End	1.05	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Trim / Thin Trees			37.815629 °	37.815629 °
				-121.418133 °	-121.418133 °
DWR ID	DWR_RD2089_02_s _ 2012_29				
Comment Code					
T5 : Tree stumps.					
Inspector Comment					
14" dia stump. Could not verify as the area is overgrown with high weeds.					

Photo 1 of 1 : FA_2018_RD2089_317_29_20180906_00027.jpg



Tree stump >2" left after vegetation and tree removal.

LM Start	1.08	Rating **	M	Issue No.	17
LM End	1.08	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			37.816025 °	37.816025 °
				-121.418544 °	-121.418544 °
DWR ID	DWR_RD2089_02_s _ 2012_17				
Comment Code					
DE : Debris					
Inspector Comment					
Water tanks disposed of on levee are obstructive.					

Photo 1 of 1 : FA_2018_RD2089_317_17_20180906_00018.jpg



View of water tanks disposed on waterside slope.

LM Start	1.12	Rating **	M	Issue No.	30
LM End	1.12	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.816514 °	37.816514 °
				-121.418948 °	-121.418948 °
DWR ID	DWR_RD2089_02_s _ 2012_30				
Comment Code					
V4 : Elderberries are blocking visibility and flood fight capability.					
Inspector Comment					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable		N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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Reclamation District No. 2089 Stark

**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.26	Rating **	U	Issue No.	33
LM End	1.26	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Trim / Thin Trees			37.818408 °	37.818408 °
				-121.419738 °	-121.419738 °
DWR ID	DWR_RD2089_02_f_2018_33				
Comment Code					
T4 : Trim trees over roadway to at least 12 feet above ground level.					
Inspector Comment					
Tree on landward slope overhanging crown of levee.					

Photo 1 of 1 : FA_2018_RD2089_317_33_20181101_00068.jpg



Looking west at trees overhanging crown of levee. (Fall 2018)

LM Start	1.29	Rating **	U	Issue No.	19
LM End	1.29	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.818740 °	37.818740 °
				-121.419759 °	-121.419759 °
DWR ID	DWR_RD2089_02_f_2016_19				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_317_19_20180906_00020.jpg



View of the rodent burrow in the landside levee slope.

LM Start	1.29	Rating **	A/W	Issue No.	32
LM End	1.29	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.818829 °	37.818829 °
				-121.419776 °	-121.419776 °
DWR ID	DWR_RD2089_02_s_2012_32				
Comment Code					
V4 : Elderberries are blocking visibility and flood fight capability.					
Inspector Comment					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Reclamation District No. 2089 Stark

View of the tree stump from the levee crown.

View of the rodent burrow in the landside levee slope.

View of the multiple rodent burrows on the landside levee slope.

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